

MICRO

MCR100-4A

MCR100-6A

MCR100-8A

**0.8A SILICON
CONTROLLED
RECTIFIERS**

- * Driven directly with IC and MOS device.
- * Feature proprietary, void-free glass passivated chips.
- * Available in voltage ratings from 100 to 600 volts
(VDRM and VRRM)
- * Sensitive gate trigger current.
- * Designed for high volume, line-powered control application
in relay lamp drivers, small motor controls, gate drivers for
large thyristors.

TO-92



Pin 1 : Cathode

Pin 2 : Anode

Pin 3 : Gate

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	DEVICE NUMBERS		UNITS
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage and Tc=125°C	VDRM & VRRM	MCR100-4A MCR100-6A MCR100-8A	200 400 600	V V V
RMS On-State Current at Tc=50°C and Conduction Angle of 180°	IT (RMS)		0.8	A
Peak Surge (Non-Repetitive) On-State Current, One-Cycle, at 50Hz or 60Hz	ITSM		8	A
Peak Gate-Trigger Current for 3μ sec. Max.	IGTM		0.8	A
Peak Gate-Power Dissipation at IGT ≤ or = IGTM	PGM		5	W
Average Gate-Power Dissipation	PG(AV)		0.2	W
Peak Off-State Current (1) Tc=25°C	IDRM &		10	μA
VDRM & VRRM = Max. Rating Tc=125°C	IRRM		200	MAX
Maximum On-State Voltage. (Peak) at Tc=25°C and IT= Rated Amps	VTM		1.7	V MAX
DC Holding Current, (1) Tc=25°C	IHO		5	mA MAX
Critical Rate-Of-Rise of Off-State Voltage. (1) Gate Open, Tc=110°C	Critical dv/dt		5	V/μ sec
DC Gate-Trigger Current for Anode Voltage = 7V DC, RL = 100 ohm and at Tc=25°C	IGT		200	μA MAX
Storage Temperature Range	Tstg		-40 to +150	°C
Operating Temperature Range, Tj	Toper		-40 to +110	°C
DC Gate-Trigger Voltage for Anode Voltage = 7V DC RL=100ohm and at Tc=25°C	VGT		0.8	V MAX
Gate-Controlled Turn-on Time tD+tR IGT=10mA and Tc=25°C	Tgt		2.2	μ sec
Thermal Resistance, Junction-to-Case	Rθ J-C		75	°C/W TYP

(1) RG-K = 1K ohm



MICRO ELECTRONICS LTD.

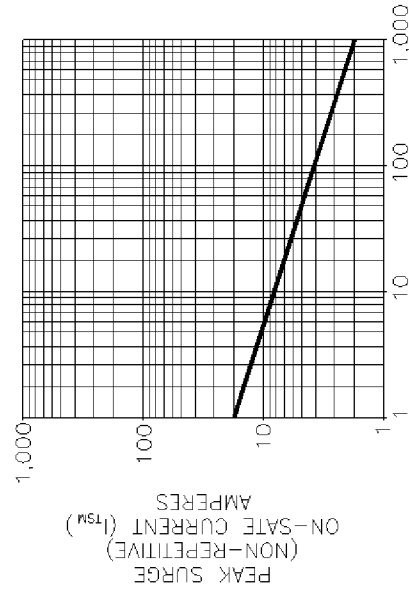
38, Hung To Road, Microtron Building, Kwun Tong, Kowloon, Hong Kong.

Kwun Tong P.O. Box 69477 Hong Kong. Fax No. 2341 0321 Telex:43510 Micro Hx. Tel: 2343 0181-5

May-98

MCR100-4A 6A 8A

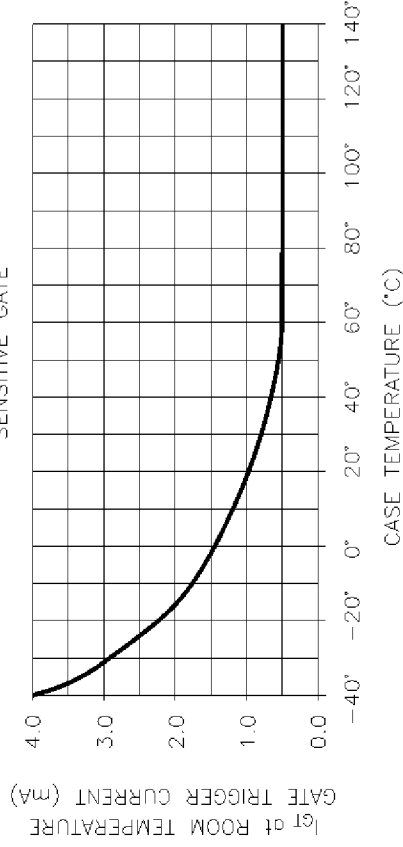
PEAK SURGE ON-STATE CURRENT
VS
SURGE CURRENT DURATION



PEAK SURGE
(NON-REPETITIVE)
ON-STATE CURRENT (I_{TS})
AMPERES

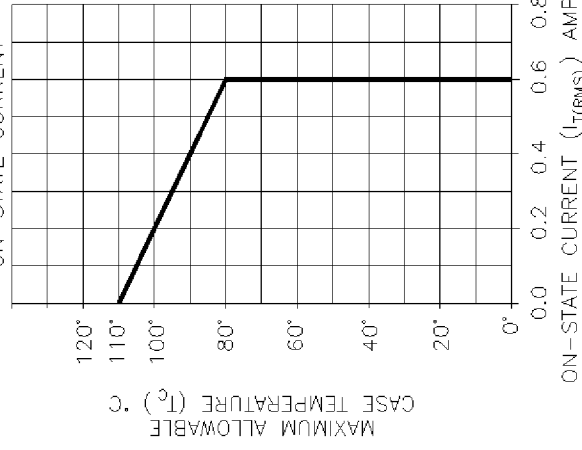
SURGE CURRENT DURATION,
FULL CYCLES at 60Hz
CURRENT WAVEFORM :
SINUSOIDAL, 60Hz
RESISTIVE LOAD

TYPICAL GATE CURRENT
VS
CASE TEMPERATURE
SENSITIVE GATE



Gate Trigger Current
(mA) at Room Temperature

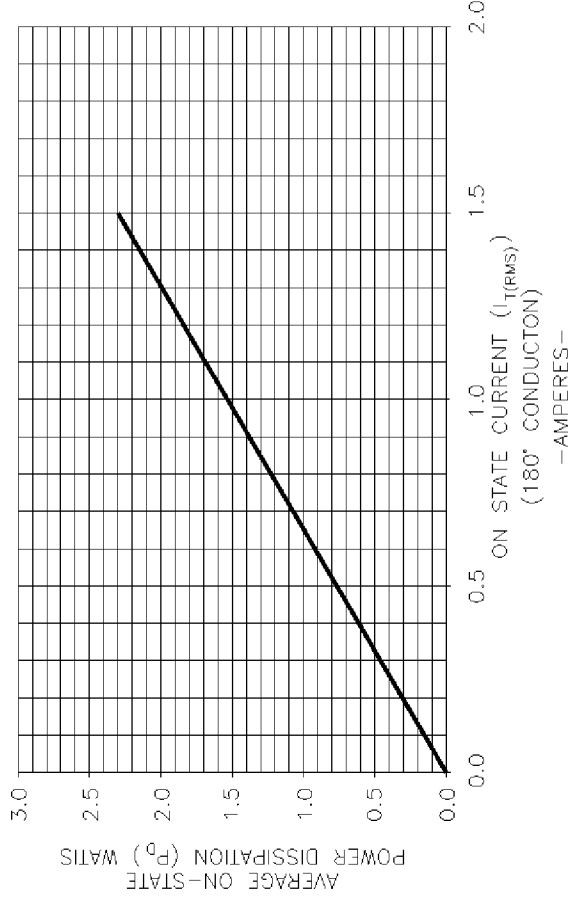
MAXIMUM ALLOWABLE CASE TEMPERATURE
VS
ON-STATE CURRENT



MAXIMUM ALLOWABLE
CASE TEMPERATURE (T_c) °C

1. MEASURED AT HOTTEST POINT
2. WAVEFORM : SINUSOIDAL,
50Hz to 60Hz 140°
3. 180° CONDUCTION

MAXIMUM CONDUCTION POWER DISSIPATION
VS
ON-STATE CURRENT



AVERAGE ON-STATE
POWER DISSIPATION (P_D) WATTS